

Amendments to the Claims:

This following listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (currently amended) An apparatus for fabricating nanostructure-based devices on a workpiece, ~~the apparatus comprising:~~
 - a stage for supporting ~~[[a]] the~~ workpiece, ~~[[said]] wherein the workpiece having catalyst deposited thereon, said workpiece including~~ includes multiple work regions dies, each die having a catalyst on it, ~~said multiple work regions hereinafter referred to as dies;~~
 - a radiating-energy source, ~~configured to directly positioned above the stage to locally~~ heat the catalyst on at least one die via simultaneously emitted multiple prongs of radiating energy; and
 - a feedstock delivery system for delivery of feedstock gas to ~~[[said]] the~~ catalyst.
2. (currently amended) ~~[[An]] The apparatus according to of~~ claim 1~~[[,]] wherein [[said]] the~~ radiating-energy source is a laser source, and ~~[[said]] the~~ multiple prongs are multiple laser beams.
3. (currently amended) ~~[[An]] The apparatus according to of~~ claim 2~~[[,]] wherein [[said]] the~~ multiple laser beams comprise a type selected from the set consisting of YAG, excimer, CO₂, argon, helium-neon, ruby, neodymium glass, semiconductor, and free electron.
4. (currently amended) ~~[[An]] The apparatus according to of~~ claim 2~~[[,]] wherein [[said]] the~~ multiple laser beams originate from a single laser split by at least one beam splitter.
5. (currently amended) ~~[[An]] The apparatus according to of~~ claim 2~~[[,]] wherein [[said]] the~~ multiple laser beams comprise at least ~~[[10]] ten~~ laser beams.

6. (currently amended) ~~[[An]] The apparatus according to of claim 1[[,]] wherein [[said]]~~
the radiating-energy source includes at least one of a focused acoustic, focused radio frequency
(RF), focused infrared (IR), or focused microwave source.

7. (currently amended) ~~[[An]] The apparatus according to of claim 1[[,]] wherein [[said]]~~
the apparatus is configured to permit [[said]] the multiple prongs to be positioned and aligned so
that all catalyst throughout ~~[[said]] the~~ die that are desired for seeding growth are irradiated.

8. (currently amended) ~~[[An]] The apparatus according to of claim 1[[,]] wherein [[said]]~~
the apparatus is configured to permit [[said]] the multiple prongs to be positioned and aligned so
that all catalyst throughout ~~[[said]] the~~ die that are desired for seeding growth are irradiated in
multiple irradiating periods, in which a set of islands of catalyst irradiated in a first irradiating
period is not identical to a set of islands of catalyst irradiated in a second irradiating period.

9. (currently amended) ~~[[An]] The apparatus according to of claim 1[[,]] wherein [[said]]~~
the apparatus is configured to permit [[said]] the multiple prongs to be positioned and aligned so
that all catalyst throughout ~~[[said]] the~~ die that are desired for seeding growth are irradiated in
multiple irradiating periods, in which each period of said multiple periods uses a different set of
fabrication parameters.

10. (currently amended) ~~[[An]] The apparatus according to of claim 1[[,]] wherein~~
~~[[said]] the radiating-energy source includes a beam splitter, wherein a plurality of [[said]] the~~
multiple prongs are produced by ~~[[said]] the~~ beam splitter from beams that number fewer than
~~[[said]] the~~ plurality.

11. (currently amended) ~~[[An]] The apparatus according to of claim 1[[,]] wherein~~
~~[[said]] the feedstock delivery system is positionable at least in distance normal to said above the~~
die, and in direction of gas flow toward ~~[[said]] the~~ die.

12. (currently amended) ~~[[An]] The apparatus according to of claim 1[[,]] wherein~~
~~[[said]] the feedstock delivery system is positionable in X, Y, and Z directions.~~

13. (currently amended) [[An]] ~~The apparatus according to~~ of claim 1[[.]] wherein [[said]] the stage can be configured to be capable of being translated or rotated relative to the radiating-energy source, whereby any die ~~among said~~ of the workpiece is capable of being positioned for exposure to said radiating-energy source.

14. (currently amended) [[An]] ~~The apparatus according to~~ of claim 1[[.]] wherein [[said]] the apparatus is configured to permit at least a portion of said radiating-energy source to be translated or rotated relative to [[said]] the stage, whereby [[said]] the multiple prongs are capable of being selectively positioned for radiating energy onto any given die of a workpiece.

15. (currently amended) [[An]] ~~The apparatus according to~~ of claim 1[[.]] wherein [[said]] the stage includes a stage temperature-control unit for helping to control a temperature of a workpiece.

16. (currently amended) [[An]] ~~The apparatus according to~~ of claim 15[[.]] wherein [[said]] the stage temperature-control unit is ~~one that is capable of cooling a~~ cools the workpiece to a temperature in a range from an equilibrium room temperature ~~or a processing temperature~~ to ~~as low as~~ -250 degrees centigrade.

17. (currently amended) [[An]] ~~The apparatus according to~~ of claim 15[[.]] wherein [[said]] the stage temperature-control unit is ~~one that is capable of heating a~~ heats the workpiece to a temperature in a range from ~~0 degrees centigrade or the~~ an equilibrium room temperature to 1200 degrees centigrade.

18. (currently amended) [[An]] ~~The apparatus according to~~ of claim 1[[.]] wherein [[said]] the apparatus is for fabricating carbon nanostructure-based devices.

19–28. (canceled)

29. (new) An apparatus comprising:
a stage, for supporting a workpiece having a plurality of work regions, wherein each work region will have a catalyst on it;
a temperature control unit, coupled to the stage, to maintain the stage and the workpiece at a first temperature;
a radiating energy source, above the stage, to locally heat the catalyst of a selected work region to a second temperature, above the first temperature, via multiple prongs of radiating energy; and
a feedstock delivery system for delivery of feedstock gas to the catalyst.

30. (new) The apparatus of claim 29 wherein the multiple prongs of radiating energy are simultaneously emitted by the radiating energy source.

31. (new) The apparatus of claim 29 wherein the temperature control unit heats the stage to the first temperature.

32. (new) The apparatus of claim 29 wherein the temperature control unit cools the stage to the first temperature.

33. (new) The apparatus of claim 29 wherein the selected work region will comprise a plurality of nanostructure devices.

34. (new) The apparatus of claim 29 wherein the radiating energy source comprises focused infrared radiation.

35. (new) The apparatus of claim 29 wherein the radiating energy source comprises a laser.

36. (new) The apparatus of claim 29 further comprising:
a temperature sensor, coupled to the stage, to monitor a temperature of the workpiece.

37. (new) The apparatus of claim 29 wherein a output nozzle of the feedstock delivery system is movable to position above the stage.

38. (new) The apparatus of claim 29 wherein the feedstock delivery system comprises a heating element to heat the feedstock gas to a third temperature before exposing the catalyst to the feedstock gas.

39. (new) The apparatus of claim 29 wherein work regions other than the selected work region are at the first temperature.

40. (new) The apparatus of claim 29 wherein in the selected work region, a plurality of nanotube structures will be formed.

41. (new) The apparatus of claim 40 wherein in work regions other than the selected work region, nanotube structures are not formed.

42. (new) The apparatus of claim 29 wherein in the selected work region, a plurality of nanowire structures will be formed.

43. (new) The apparatus of claim 42 wherein in work regions other than the selected work region, nanowire structures are not formed.

44. (new) The apparatus of claim 29 wherein the first and second temperatures are set independently of each other.

45. (new) The apparatus of claim 38 wherein the third temperature is different from the first and second temperatures.

46. (new) The apparatus of claim 38 wherein the first, second, and third temperatures are set independently of each other.

47. (new) The apparatus of claim 29 wherein there are more than ten prongs of radiating energy.

48. (new) The apparatus of claim 29 wherein there are more than fifty prongs of radiating energy.

49. (new) The apparatus of claim 29 wherein there are more than one hundred prongs of radiating energy.

50. (new) The apparatus of claim 29 further comprising:
an electric field generator, having an adjustable position relative to the stage, whereby the electric field generated by the generator will influence a direction of nanostructure growth in the selected work region.

51. (new) The apparatus of claim 29 further comprising:
a magnetic field generator, having an adjustable position relative to the stage, whereby the magnetic field generated by the generator will influence a direction of nanostructure growth in the selected work region.

52. (new) The apparatus of claim 29 wherein the multiple prongs of radiating energy are parallel to each other.

53. (new) The apparatus of claim 29 wherein the multiple prongs of radiating energy are not parallel to each other.

54. (new) The apparatus of claim 52 wherein the multiple prongs of radiating energy are perpendicular to a surface of the selected work region.

55. (new) The apparatus of claim 52 wherein the multiple prongs of radiating energy are at an angle other than perpendicular to a surface of the selected work region.